Henry Skinner

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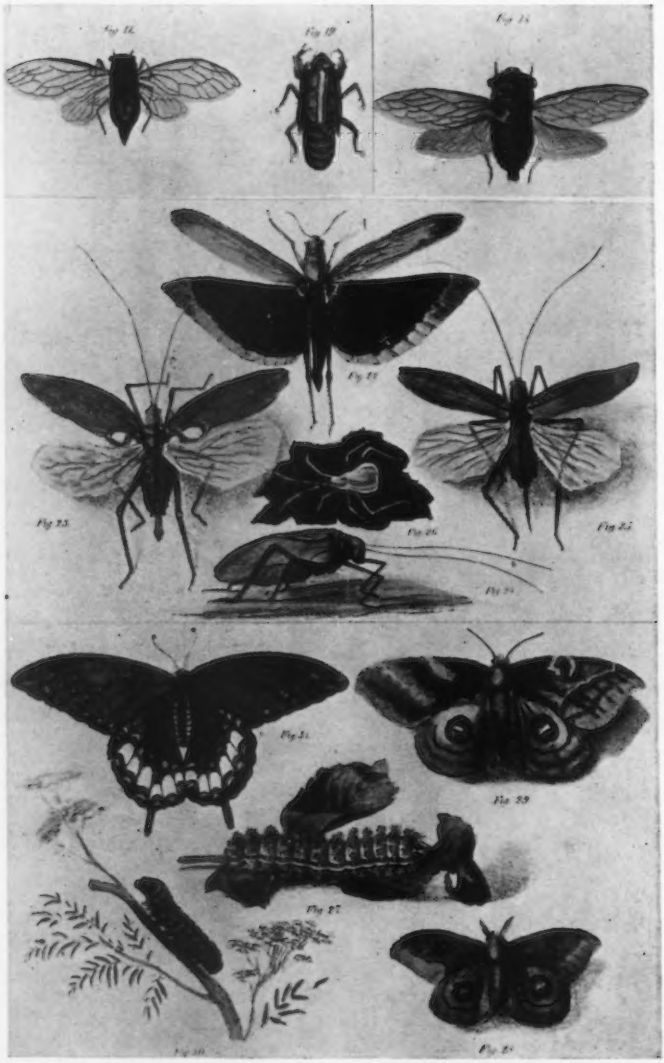

EXAMPLE OF HOPPIN'S WORK FROM JAEGER'S "LIFE OF NORTH AMERICAN INSECTS."

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Washington Hoppin, M. D., Illustrator of Jaeger's "Life of North American Insects."

By HARRY B. WEISS, New Brunswick, New Jersey

(Plate VII).

On Page 41 of Benedict Jaeger's "Life of North American Insects" (Providence, R. I. 1854), which has only a historical value now,* one finds the following statement: "But, before speaking of the Insects themselves, I cannot omit a passing tribute of gratitude to the ingenious friend through whose valuable aid I have been enabled to spread them out before my readers in all their lifelike attire. Most of the Insects presented in this and the succeeding Plate, and many that will appear hereafter, have been originally drawn and painted from nature by my friend, Washington Hoppin, M. D., of this city, who, although an amateur, only relieving the monotony of professional life by an occasional display of this, his native talent, has nevertheless drawn and painted these specimens from my cabinet with the skill of the most experienced professional artist; and this he has done from the disinterested purpose of aiding me in rendering more valuable and popular this important

* See Weiss, "Prof. Benedict Jaeger, Early Entomologist of New Jersey," Proc. N. Jersey Histor. Soc. VII, no. 3, pp. 196-207, July, 1922.

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department of Natural History. In return for his kindness, I beg to offer him here my sincere thanks, assuring him that I take great pleasure in associating with this work the name of Hoppin, a name not undistinguished in the annals of American Art." Thus did Professor Jaeger record his indebtedness to his friend and artist.

Six colored plates accompany the book, I, II and III being devoted to beetles, IV to Hemiptera, V to Orthoptera and VI to Lepidoptera. Although Jaeger does not state specifically that all of the illustrations were made by Doctor Hoppin, it is evident that some of them were drawn by the same person.

Hoppin was not the first illustrator of North American insects, being preceded by Mark Catesby, an Englishman whose work is found in "The Natural History of Florida and the Bahama Islands, Containing Figures of the Birds, Beasts, Fishes, Insects, and Plants, etc." London MDCCXXXI-MDCCXLIII; by Abbott, also presumably an Englishman whose plates are found in "The Natural History of the Rarer Lepidopterous Insects of Georgia," London, 1797, by Smith & Abbott; by Peale, a distinguished American naturalist and artist who is the author of approximately twenty-eight plates of Say's "American Entomology," 1824, the remaining plates being credited as follows: Nine to C. A. Lesueur, a Frenchman by birth, nine to W. W. Wood whose nativity is in doubt and two to H. B. Bridport, who was born in London. Another early illustrator was the father of Dr. J. L. Leconte, Maj. Jno. Eatton Leconte, most of whose drawings were never published. Mr. W. R. Walton has gathered together many interesting facts about these early illustrators and his accounts will be found in the Proceedings of the Entomological Society of Washington (vol. 23, No. 4, pp. 69-99) under the title "Entomological Drawings and Draughtsmen, Their Relation to the Development of Economic Entomology in the United States."

This brings us to 1854, the publication date of "The Natural History of New York" illustrated by Emmons as draughtsman and R. H. Pease as lithographer. The fifty plates of this volume are severely and justly criticized by Walton, although at first

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glance one is impressed by the neat arrangement of the figures. The colors of the butterflies are especially absurd. Harris' "Insects Injurious to Vegetation" was published previous to this and the work of the artist, Antoine Sonrel, has been highly praised. It is manifestly unfair to compare Hoppin's plates, printed in 1854, with present day standards because their deficiencies are bound to be overemphasized but Hoppin's work is contemporaneous with that of Sonrel and Emmons. It will not bear comparison with the illustrations in Harris' work, those by Hoppin being on the whole inaccurate as to detail and, from a technical standpoint, poorly drawn and colored. The arrangement of the figures on the beetle plates is peculiar, the illustrations for the most part being at the extreme corners and sides of the pages with nothing but blank space between them. There is little or no attempt at symmetry and it is evident that some of the specimens provided by Professor Jaeger, as models, were not mounted or preserved with much care. It is also obvious that Dr. Hoppin was not interested in detail, the venation of the hind wings of the cicadas on Plate IV for instance being impossible; in fact, all of the figures are woefully inaccurate with respect to detail and proportion. Professor Jaeger plainly exercised no supervision over the work probably having no interest in anatomical minutiæ. Some of Hoppin's work will be found on the plate accompanying this article and one can see from this, the inaccuracies noted above. In comparison with the work of Emmons, the neatness is lacking but Hoppin's few Lepidoptera are certainly not as ridiculously colored as those of Emmons. It should be kept in mind, however, that Jaeger's book was probably the first one that attempted to popularize entomology in this country. It was written for the general reader and the colored plates also were for the general reader; and, as such, they probably gave satisfaction, especially as the mental impression gained by looking at some of the figures enables one to identify what one supposes to be the species with little or no trouble. So far as I have been able to learn, Dr. Hoppin made no other drawings of insects and it is easy to imagine

that the illustrations for Jaeger's book were done in a spirit of friendliness at the earnest solicitation of the author.

Dr. Washington Hoppin was born on April 1, 1827, in Providence, Rhode Island, being one of the sons of Thomas Coles and Harriet Dunn (Jones) Hoppin. His father, a merchant of Providence, was the son of Capt. Benjamin Hoppin of the Continental army; his mother, the daughter of Capt. William Jones, also of the Continental army and governor of Rhode Island from 1811 to 1817. Washington came of an artistic family. His brother, Augustus, caricaturist, artist and author, born in Providence, July 13, 1828, graduated from Brown in 1848, studied and practised law for a time in Providence but abandoned it for art. After studying in Europe he gained a high reputation as an illustrator of books and drew the designs for "The Potiphar Papers" (1853), "Nothing to Wear" (1857), etc. He also published a series of illustrated sketch books. He died at Flushing, New York, April 1, 1896. Another brother, William Jones, born April 21, 1813, studied at Yale and Middlebury College, Vt., and obtained the degree of LL. B. from Harvard in 1835. He was one of the founders of the "Century Association of New York" and frequently visited Europe and contributed articles on art subjects to American and European periodicals. From 1876 to 1886 he was secretary of the United States Legation at London. Another brother, Thomas Frederick, born August 15, 1816, studied art in Philadelphia and Paris under Delaroche. In 1837 be returned to this country and lived in New York City where he made the designs of the four evangelists which compose the great chancel window of Trinity Church. He modeled the first piece of sculpture ever cast in bronze in the United States and produced statues and groups in plaster, etchings in outline and pictures representing American life and history.

It is said that Washington Hoppin possessed great ability as a caricaturist. His son, Howard Hoppin of Providence, advised me that his father showed great artistic talent in black and white illustrating, painting and particularly in

silhouettes. He studied medicine at the Hahnemann Medical College, Philadelphia, graduating in the class of 1850, two years after the founding of the college in 1848; and practising in Providence, R. I., in partnership with a Dr. Barrows, where he was very successful in the treatment of children. Being a homœopathic physician, he was not a member of the Rhode Island Medical Society. Homœopathy was introduced into this country by a Dr. Hans Birch Gram, a native of Boston educated at Copenhagen, who opened an office in New York City in 1825. It flourished more rapidly in this country than in Europe but in spite of this the early converts to homœopathy were subjected to storms of opposition and, in order to strengthen their cause, the American Journal of Homœopathy was started in 1835 and the American Institute of Homœopathy, the oldest national medical association in the country was organized in 1844. Although Dr. Hoppin pursued his profession some six years later than 1844, he practised at a time when Homœopathy was looked upon with suspicion by many and considerably before the differences between the two schools of medicine began to disappear.

Dr. Hoppin married Louise Clare Vinton, daughter of Major John Rogers Vinton, U. S. A., on October 14, 1852, and their issue consisted of six children, Helena Lucretia (died young), Howard, Louise Clare, Washington (died 1914), Harriet Dunn (Mrs. Robert Jacob) and Francis Laurens Vinton. He died April 1, 1867, on his fortieth birthday, and is buried at Swan Point Cemetery, Providence, R. I.

ACKNOWLEDGMENTS

I am very grateful to Mr. Howard Hoppin of Providence, R. I., for information about his father in a letter dated December 15, 1924. The standard cyclopaedias contain very little about Dr. Hoppin and in my search for information I was aided by Mr. John S. Brownne, Librarian of the New York Academy of Medicine and Mr. H. M. Chapin, Librarian of the Rhode Island Historical Society, whose help is deeply appreciated. In addition the facilities extended by the State Library

at Trenton, New Jersey, the library of the Philadelphia College of Physicians and the New York Genealogical and Biographical Society are gratefully acknowledged.

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EXPLANATION OF PLATE VII.

Examples of Hoppin's work from Jaeger's "Life of North American Insects."

Report of Collections of Aquatic Hemiptera taken in Cherokee County, Kansas, and other New Records from the State.

By H. B. HUNGERFORD and R. H. BEAMER, University of Kansas, Lawrence, Kansas.

In August of 1920 the writers spent a few days collecting in the southeast corner county of Kansas and as a result added a number of species new to our University collection of Kansas insects. Most of these species have never been recorded as occurring in Kansas, and this paper is prepared for the purpose of placing on record these interesting finds. We are adding also some of the more notable collections that have been made from time to time by various collectors and reporting some structural characters that we have found of specific value in determining difficult species.

The first list of aquatic Hemiptera of Kansas formed a portion of a list of the Heteroptera prepared by E. A. Popenoe in 1883-84 under the title "Contributions to a Knowledge of

the Hemiptera Fauna of Kansas" which appeared in the *Transactions of the Kansas Academy of Science,* Volume IX, p. 62.

A second list of aquatic forms was given in F. F. Crevecoeur's paper, "Additions to the List of the Hemiptera Fauna of Kansas." This was published in Volume XIX of the *Transactions of the Kansas Academy of Science* in 1904. Thus it has been twenty years since any formal list of additions or corrections to the water bug fauna of the state has been published. Both of these lists were short and both appear to have been omitted in Van Duzee's great "Catalogue of the Hemiptera of America North of Mexico", 1917. Because of this omission, and because they represent the foundation lists upon which to build, they are repeated below:

POPENOE'S LIST, 1883-84:

Salda signoretti Guer.
" *deplanata* Uhl.
Galgulus oculata Fab.
Naucoris poeyi Guér.
Belostoma americana Leidy (?)
Zaitha fluminea Say
Ranatra quadidentata Stal.
Nepa apiculata Harris (?)
Notonecta undulata Say.
" sp. undet.
Anisops platycnemis Fieb.
Corixa alternata Say.
" n. sp. Uhl.

CREVECOEUR'S LIST, 1904:

Hygrotrechus remiges Say. On water in streams. May.
Limnotrechus marginatus Say. On water in streams. April, Oct.
Hebrus pusillus Burm. About a spring on Creek bank. April.
Salda interstialis Say. On sandy beach. June.
" *humilis* Say. In swamp. May.
Mesoretia bisignis Uhl. On water in stock pond. August.
Ranatra fusca P. B. In ponds and streams. April.
Corisa scutellata. In stock pond. March, October.
" *harrisii* Uhl. In stock pond. March, October.

Thus we see that Popenoe's list included thirteen species, eleven of them named. Of these eleven names, seven are probably correct, though the generic name has been changed in six of the seven cases.

In Crevecoeur's list there are nine names. Of these, one

is a naked name, one a species not recognized from America and one has suffered so greatly from typographical errors that it might not be recognized.

In 1909 G. W. Kirkaldy and J. R. de la Torre-Bueno published a "Catalogue of American Aquatic and Semi-aquatic Hemiptera." In this, Kansas is mentioned in the habitat lists for the following species:

Acanthia deplanata Uhler.
" *signoretii* Guérin.
Lethocerus uhleri Mont.
Microvelia americana Uhler.
Gerris marginatus Say.

All the above would indicate a neglect of the aquatic Hemiptera in Kansas. In Van Duzee's catalogue, 1917, the following species are recorded from Kansas in addition to those given by Kirkaldy and Bueno.

Mesovelia mulsanti White.
Notonecta variabilis Fieb.
Notonecta undulata Say.
Plea striola Fieb.

In the *Kansas University Science Bulletin,* Volume XI, the senior author mentioned a number of aquatic and semi-aquatic species that had not hitherto been recorded for Kansas. Since he mentioned them in connection with life history or behavior studies, and thus casually in the body of a large paper without calling attention to the fact that the species were being reported for the state for the first time, they seem to have been unnoted. They are as follows:

Hydrometra martini Kirk.
Gerris remigis Say
Trepobates pictus Uhl.
Rheumatobates rileyi Bergr.
Microvelia borealis Bueno
Benacus griseus Say
Buenoa margaritacea Bueno
Pelocoris carolinensis Bueno
Ramphocorixa acuminata (Uhl.)

Some of the species collected by us in Cherokee County, Kansas, were sent to Mr. J. R. de la Torre-Bueno and reported by him in *Entomological News* XXXII, p. 272, 1921. They were:

Ranatra kirkaldyi Bueno
Gelastocoris oculatus Fabr. (Reported by Popenoe 1884)
Buenoa elegans (Fieb.)
Tenagogonus hesione Kirkaldy

Another species of the Cherokee County collecting trip, *Hydrometra australis* Say, was reported by the senior author in the *Bulletin of the Brooklyn Entomological Society*, 1922, under the note "Both Hydrometras in Kansas."

Following are further interesting records of aquatic Hemiptera:

HEBRIDAE.

This family of tiny surface striders is not very richly represented in our collections. Crevecoeur reported one species in 1904 under the name *Hebrus pusillus* Burm. This species is now called *Hebrus burmeisteri* L. and S. On October 8th and 9th, 1923, the writers took 135 specimens of *Hebrus consolidus* Uhl. from the margins of a small pool known as Rock Pool near Lawrence, Kansas. Whether Crevecoeur's *H. pusillus* is really the species we have found, we are not able to say. *Hebrus burmeisteri* L. and S. was described from Pennsylvania. The species taken at Ithaca, New York, by the senior author and called *H. concinnus* Uhl. by him is quite distinct from our Kanas species. The New York species has the lateral margins of the prothorax more constricted, the scutellum more plainly notched at tip and nervures of wing of different shape. *Hebrus concinnus* is described as being 2¼ to 2½ mm. long and the New York species is not as large. We are now inclined to believe that the New York species should be called *Hebrus burmeisteri* L. and S. although there is practically no description of this species and it must be a guess at the best. A single specimen taken by the senior author at Rock Creek, Douglas County, Kansas, several years ago is unlike either of the above species and runs to *Hebrus sobrinus* Uhl.

The genus *Merragata* was reported for the United States by Doctor Drake in 1917. He described two new species from Ohio. A single specimen of *Merragata foveata* Drake was from Fort Collins, Colorado, and this is the only record for the genus outside of Ohio. We are able to report two specimens of the above species from Estes Park, Colorado, taken on the margins of Mary's Lake, August 22, 1919, by Hungerford, two specimens from the historic "Hole in the Rock" Douglas County, Kansas, April 29, 1923, and one specimen

from Rock Pool, near Lawrence, Kansas, on October 8th. Other specimens of this species were taken by the senior author at St. Paul, Minn., July 16, 1921. *Merragata brunnea* Drake has been taken in Doniphan County, Kansas, by Mr. Beamer and by Mr. Jean Linsdale, and in St. Paul, Minnesota, by the senior author. Two species of this genus described from the United States are much alike. *M. brunnea* Drake is the smaller species and is easily separated from *M. foveata* Drake by the nervures of the wing.

(To be continued)

A New Sciarid from the Eastern United States (Dipt.: Mycetophilidae).

By O. A. JOHANNSEN, Cornell University, Ithaca, New York.

Sciara similans n. sp.

♂ Length 2 mm. Head and antennae including the basal segments black. Antennae elongate, about seven-eighths as long as the wing measured from the humeral crossvein; intermediate flagellar segments over three times as long as wide, Palpi short, dusky yellow, paler apically, terminal segment about twice as long as wide, the third segment a little shorter. Mesonotum, scutellum and upper half of pleura subshining black, remaining parts of the thorax duller black. Abdomen, including the genitalia, dull brownish black. Hypopygium resembles that of *Sciara pauciseta,* differing in having no distinct median ventral papilla and with the median bristles less closely crowded; the clasper less slender, resembling that of *S. johannseni* Enderl. (fig. 125, Bul. 200, Me. Agr. Exp. Sta. 1912), with the mesal margin nearly straight but with the apical tooth rather shorter than shown in the figure mentioned.

Legs subfuscous; coxae and trochanters, particularly of the anterior pair, more yellowish; outer side of basal articulatory process (artis of MacGillivray) of the femora distinctly black and conspicuous; fore tibia with oval setiferous patch at the base of the spur as in *S. pauciseta.*

Wings grayish hyaline, veins subfuscous, distinctly yellow at the base. Media and cubitus without setae, base of the radial sector at a point two-thirds distad from the humeral crossvein to tip of the anterior branch of the radius, the latter ends over one-eighth of wing-length proximad of the base of the fork of the media; petiole of cubitus about one-half the length of the base of the media; costa extends over two-thirds the distance

between the tips of the radial sector and anterior branch of the media; radial sector ends slightly proximad of .85 the length of the wing and slightly proximad of the tip of the posterior branch of the media. Halteres yellow.

♀, Differs mainly in being a little larger, with relatively broader wings, with the tip of the radial sector more retracted, with a shorter petiole of the cubitus and with relatively less distance between the tip of the anterior branch of the radius and the base of the fork of the media. Antennae less than five-eighths as long as the wing, the intermediate segments but little more than twice as long as wide.

The male of this species will fall in the couplet with *S. pauciseta* of Dr. F. W. Pettey's key (Annals Ent. Soc. Amer. 11:1918) but may readily be distinguished by the characters given above.

A number of bred specimens. *Holotype, allotype* and *paratypes* in the Cornell University Collection. Paratypes in the U. S. National Museum, and Museum of Comparative Zoology, Cambridge. The original specimens from which stocks were reared were obtained by Dr. C. W. Metz at Cold Spring Harbor, Long Island, New York.

Notes on the Life History of Catocala whitneyi (Dodge) (Lepid.: Noctuidae).

By E. A. Dodge, Santa Cruz, California.

Mrs. O. F. Hiser of Arnolds Park, Iowa, last spring kindly sent me eggs of *Catocala whitneyi*. The same lady having previously furnished me seeds of its food plant, *Amorpha fruticosa*, I was enabled to rear this handsome species to maturity.

The *egg* is hemispherical, flattened at base, with eighteen vertical ribs reaching nearly to the micropylar area and with a few short ribs between.

Larvae commenced to emerge April 30th. Young larvae very restless. Head and thorax light yellow. Abdomen green.

Fifth day: Head pale orange. Middle of body deep green, striped longitudinally with white lines.

Soon after this date the larvae assumed with little change the colors and markings of the mature larvae.

Full grown larva cream white. Head white with a slight pinkish shade on lobes. Ornamentation consists of longitudinal, double, greenish brown lines, composed of numerous dots set close together. The space between has a row of dots through the

middle. These bands are divided by a stripe of the body color having with one exception a row of dots through the middle. Dorsal band irregular, contracted at divisions of segments and widening in the middle, forming oval figures. This band contracted on second thoracic segment, becoming a single line over first segment, and joining the line down the face. Also contracted to a single line over last segment. Subdorsal band a double band of dark brown dots. This band contracted at head, forming a double, much branched band over head and ending in a point near jaws. Next band much lighter and also runs along side of head. The spiracular band is composed of very black dots with the reddish spiracles on lower line. This crosses the head near the jaws. Below this band a broad band of cream white with no row of dots through center. This is bordered below by a double line of light brown dots and several short lines above the prolegs. Prolegs spotted with black. Anal prolegs bordered behind with black.

Full grown larva one and three-fourth inches long. Under side greenish white thickly sprinkled with light brown dots. A black spot, longer than wide and pointed in front, on each of the body segments. First and second spots long and narrow. Proleg segments larger. Last segments mere black lines. Tubercles orange.

The spiracular band and the broad white stripe of body color below it are the most distinctive features and look like a band of black followed by a white band along the side of larvae. No filaments.

Pupa deep reddish brown; slight pubescence on thorax.

From emergence from egg to spinning in leaves, thirty-five days. Life in pupa thirty-seven days. Doubtless our cold California coast temperature has something to do with the unusual length of time of development.

A more strongly marked larva shows an orange shade over lobes of head and over first segment. The ground color of this larva is distinctly yellowish and all spots are larger and darker.

Of the six imagoes three are of the light, and three of the dark form. By comparing this description with the description of *Catocala nuptialis,* as published by Mrs. O. F. and J. S. Hiser in the *Lepidopterist* of October 25, 1918, many points of resemblance will be noted between the two species in the larval form.

Two New Species of Calendra (Col., Curculionidae).

By A. F. SATTERTHWAIT, U. S. Bureau of Entomology.

Incidental to the investigation of the life histories of the numerous North American species of *Calendra* Clairv. and Schellenb.*, (*Sphenophorus* Authors), it has been the privilege of the writer to study many collections of the species of this genus, through the courtesy of institutions and of individual entomologists. Several appear to be new species, and of these the following are now offered for publication:

Calendra multilineatus, new species.

Tibiae broadly rounded at outer apical angle, third joint of hind tarsus scarcely wider than, and that of front tarsus at least twice as wide as, basal joint of corresponding tarsus.

Elytral intervals more or less alternately elevated and each with impressed line or groove between its row of punctures and the stria. The odd intervals show this line as a narrow, coated groove from near base to near apex except next to suture, beginning about one-third back. The even intervals show this as the lateral termination of a broad band of gray coating, the row of punctures appearing as fine black dots in middle of this band. The portion of the even intervals between this groove and the stria is elevated and deeply indented by the punctures of the stria.

Thorax with three distinct raised vittae, the median expanded about middle, widest before middle, the laterals with branches reaching outer basal angles, though sometimes coated. Vittae finely punctured, polished except sometimes the branches of the laterals, interspaces thinly coated, coarsely, sparsely punctured.

* *Calendra* Clairville and Schellenberg, 1798, Ent. Helv., p. 62, takes priority over *Sphenophorus* Schönherr, 1838, Gen. et Sp. Curc., vol. 4, p. 874, as shown by Dr. W. D. Pierce, in Proc. Ent. Soc. Wash., vol. 21, p. 26, Feb., 1919, to which the writer has made reference in his papers, "Notes on the Habits of *Calendra pertinax* Olivier," in Jr. Econ. Ent., vol. 13, p. 280, June, 1920, and "Food Plants of Certain Billbugs," in Ecology, vol. 2, p. 198, July, 1921. The fixation of *Calendra abbreviata* Fabricius as type for this genus by Latreille, 1810, Consid. Gen., appears final. A further manuscript by Dr. W. D. Pierce, to appear in Proceedings of the Entomological Society of Washington, courteously submitted to the writer, confirms this conclusion.

Dr. R. T. Cotton courteously submitted to the writer a portion of his monograph on *Sitophilus*, citing the error of the name *Calandra* on the plate and the name *Calendra* in the text and indicating that many scientists feel the authors intended the spelling to be *Calandra*. The writer feels, however, that with the change from *Sphenophorus* to *Calendra* or *Calandra*, the name should be the text name *Calendra* The writer wishes to thank both Dr. Pierce and Dr. Cotton for their generous submission of manuscripts.

Beak arcuate above and below, slightly prominent over scrobes, moderately compressed, postapical angle about 85 degrees, preapical angle slightly convex to flat.

General color black, overlaid with thin ashy gray coating in depressions.

Measurements in millimeters: ♀, Beak, width at middle, 0.38, apex, 0.47, base, 0.90, length, 4.26; pronotum, width, 4.61, length, 4.75; elytra, width, 5.42; length, 6.99; total length, 13.83.

Locality: "Minn." Described from the larger of two females submitted through the courtesy of Professors A. G. Ruggles and H. H. Knight, of the University of Minnesota.

Type No. 27826, U. S. National Museum. Paratype in the University of Minnesota Museum. Other specimens of this species studied by the author are: a female in the U. S. National Museum, from "Utah Lake, 6/9, Coll. Hubbard & Schwarz, No. 556"; one specimen "S. Haven, Mich., 9.74," one, "Wis.," two, "Ill." and one without printed or written data, in the LeConte Collection in the Cambridge Museum of Natural History; a female from "Dune Park, Ind., Oct. 7, 01, W. S. B.," in Mr. H. R. Painter's collection; one male and two females determined by Dr. Geo. H. Horn as *robustus* H. and two males and one female subsequently added to the series, all from "Ill.," in the Horn collection of the American Entomological Society, at the Academy of Natural Sciences of Philadelphia.

This species closely approaches *Calendra robustus* (Horn), but differs in that each interval of the elytra is divided into three nearly complete sub-intervals and the coating is ashy gray, thin and very incomplete, while *robustus* has the "surface evenly clothed with ochreus or plumbeus sub-sericeus exudation."

Calendra medoraensis new species.

Front tibiae truncate at outer apical angle, third joint of hind tarsus one-and-a-half times, and that of front tarsus twice, as wide as corresponding basal joints. Elytral intervals distinctly alternately elevated, strial punctures small.

Thorax with three distinct, raised, black, sinuous vittae, the median nearly as wide as laterals, the latter with branches strongly defined to outer basal angles, interspaces nearly as

wide as median vitta, rather sparingly punctured with punctures nearly like punctures of elytral striae.

Beak moderately compressed, postapical angle about 90 degrees, preapical angle flattened, arcuate beneath, the upper contour with a prominence over scrobes and another about one-fifth from apex.

Elytra with odd intervals elevated, black, polished throughout, very finely punctulate, portions of first and third confusedly bi- or tri-seriate, the balance uniseriate, sometimes irregular.

Metasternum and first and second sternites of male concave, the metasternum hairy, the concavity of first sternite with longer hair, especially near lateral margins, second sternite with short hair, scarcely visible, third, fourth and fifth sternites with hair not visible in profile; pygidium hairy, longest at extreme edge of outer apical angles.

The female differs from the male in having the abdomen convex beneath and hair of the sternum not visible in profile except on last sternite, very slightly, and the pygidium distinctly tapering, with the tufts of long hair at outer apical angles connected by a line of fairly long hair substantially back from the apex.

General color, dull red, overlaid above with black, polished elevations and with yellowish-gray coating in interspaces.

Measurements in mm.: male, beak, width at middle, 0.28, apex, 0.32, base, 0.64, length, 2.76; pronotum, width, 2.83, length, 3.05; elytra, width, 3.30, length, 4.71; total length 9.03. Female, beak, width at middle, 0.29, apex, 0.35, base, 0.70, length, 2.79; pronotum, width, 2.80, length, 3.11; elytra, width, 3.39, length, 4.53; total length, 9.37.

Locality: "Medora, Ks. 5-12-93" [Kansas]. Described from a male (type) and a female, both bearing the same data. Deposited in the U. S. National Museum through the courtesy of Professor C. L. Corkins, of Wyoming University.

Type No. 27827, U. S. National Museum.

This species closely approaches *Calendra costicollis* (Chttn.) var. *callosipennis* (Chttn.), but has all odd intervals elevated and polished from base to apex of elytra. It closely approaches *C. villosiventris* (Chttn.), but the ventral surface of the male lacks the long hair of the second and fifth sternites and has the hair of the first sternite arranged in lateral bands, nearly as occurs in *C. costipennis* (Horn). The shape of the beak is nearly identical to that of some examples of *costipennis*.

ENTOMOLOGICAL NEWS

PHILADELPHIA, PA., NOVEMBER, 1925.

The Protection of Insects.

The American Entomological Society recently received the following circular letter:

British Museum (Natural History), London, S.W.7.

May, 1925.

The British Correlating Committee for the Protection of Nature, which is composed of representatives of the Societies in Great Britain (among them being the Entomological Society of London) interested in the protection of animal and plant life, has learnt with grave concern of the serious effect on the numbers of certain beautiful species of butterflies in the British Isles resulting from the use of the wings of these insects for jewellery and similar purposes.

Some of the most active dealers in these insects are in Canada and the United States. Accordingly the British Correlating Committee and the Entomological Society of London appeal to Entomological and Natural History Societies in Canada and the United States to use their utmost influence to prevent the threatened extermination of the coveted species. Inasmuch as legislation would be difficult both to secure and to enforce, use must be made of moral suasion. The dealers themselves would no doubt be fully alive to the disadvantage from the commercial point of view of a serious diminution in the number of these butterflies, and would be willing to cooperate in any reasonable measures to secure the end in view.

For the British Correlating Committee for the Protection of Nature	For the Entomological Society of London
Rothschild, Chairman.	E. B. Poulton, President.
G. F. Herbert Smith, Hon. Sec.-Treas.	S. A. Neave, Hon. Sec.

In response to this appeal, The American Entomological Society, at its meeting of September 24, 1925, adopted the following:

WHEREAS there is grave danger of exterminating some of the most beautiful species of insects for use in works of art and jewelry;

Resolved, that The American Entomological Society strongly disapproves of such practice and herewith places itself on record as opposing the use of insects for decorative purposes.

In accordance with this action, the NEWS henceforth will not print advertisements and offers of exchange of insects for decoration.

On Dysodia granulata Neum. (Lepid., Thyridae).

Dysodia granulata Neum.

1883, Neumoegen; Pap., III, 137, *Platythyris.*

1913, Dyar, Ins. Insc. Menst., I, pp. 37, 39, 45, *Dysodia.* race *igualensis* Dyar.

1913, Dyar, Ins. Insc. Menst., I, pp. 37, 41, *Dysodia.*

D. granulata was described from Fort Huachuca, Arizona. We possess specimens from the Huachuca Mts., Paradise, Chiricahua Mts., and Baboquivari Mts., Arizona, which agree with the original description, and have a specimen compared with type by Dr. Barnes.

During the past two seasons, Mr. O. C. Poling has been sending specimens from the Baboquivari Mts., Pima Co., Arizona, varying from much darker than typical *granulata,* thru all transitional shades, to much paler ocher and rufous colors.

We are informed by Mr. William Schaus that the ochreous specimens agree with the type of *igualensis* Dyar, described from Iguala, Guerrero, Mexico. Whereas all intermediates are present, and the ochreous specimens seem as common as the darker ones in Poling's Baboquivari material, other Arizona localities have only supplied us either like the type of *granulata,* darker, or with somewhat more red on them.

In view of intermediates in the Baboquivari Mts., we see no reason to retain *igualensis* as a distinct species, but because of either the rarity or total absence of it from the type locality of *granulata,* we consider the name to be of subspecific significance. It should be added to our lists.

WM. BARNES and F. H. BENJAMIN, Decatur, Illinois.

Calpodes ethlius in California (Hesperiidae, Lepidoptera).

Calpodes ethlius can now be definitely recorded from California, as specimens were taken (larva bred) near Long Beach, Los Angeles County, California, September 12, 1924.—J. D. GUNDER, Pasadena, California.

Entomology by Radio.

The first of the radio talks of the Smithsonian Institution for the season, entitled "Flies," by Dr. J. M. Aldrich, was given from Station WRC on October 1 *(Science)*.

Zoological Record Part Insecta.

The "Insecta" part of the "Zoological Record" (as distinguished from the complete volume) will in future be published by, and only obtainable from, the Imperial Bureau of Entomology. The price for the part will be 15/-, as heretofore. It is, however, proposed as an experiment to break up a limited number of copies into the following sections, which will be sold as follows:

Section A.	List of Titles and Subject Index ..	4/-
Section B.	Coleoptera	6/-
Section C.	Lepidoptera	6/-
Section D.	Hymenoptera and Diptera	4/-
Section E.	Hemiptera, Orthoptera and remaining Orders	4/-

The above division has been instituted for the benefit of those entomologists who are interested in a portion only of the systematic part of the work. It is in the nature of an experiment only and cannot be continued unless it is widely supported.

All orders for the "Insecta" part, or any sections of it, should be addressed to the Assistant Director, Imperial Bureau of Entomology, 41, Queen's Gate, London, S.W.7. Orders for the complete volume of the "Zoological Record" should continue to be sent to the Zoological Society of London, London, Regent's Park, London, N.W.8.

Wanted—Live Cocoons of Giant Silk Worms (Lepid).

Prof. Joanny Petrequin, Professor of Sericiculture in the Laboratory for Silk Studies, No. 36 Rue Childebert, Lyon, France, and a member of the Committee on Propaganda of the Linnean Society of Lyon, and a group of his colleagues, are anxious to get this winter live cocoons of *Attacus luna, Samia cecropia, Philosamia cynthia, Samia gloveri,* and *Telea polyphemus,* also of *Automeris,* in order to enable them to continue certain experiments which were being carried on before the war and which they are about to resume. The effort is a sound scientific one, and American entomologists should be glad to help. I thing that a notice about this might very well be published in ENTOMOLOGICAL NEWS.

L. O. HOWARD,
Chief of Bureau of Entomology, Washington, D. C.

Changes of Address.

C. F. Adams to 3820 Harrison Boulevard, Kansas City.

Franklin Sherman to Div. Entomology, Clemson College, South Carolina.

Austin P. Smith to Hotel Lafayette, Havana, Cuba.

The Feeding of a Common Tiger Beetle (Coleop., Cicindelidae).

While making studies in chinch bug control for the Illinois State Natural History Survey in the summer of 1923, our most plentiful tiger beetle, *Cicindela punctulata* Oliv. was commonly seen in the furrows of the chinch bug barriers. On the afternoon of July 23, a specimen of this beetle was observed in the process of getting a full meal. Sheltered from the hot afternoon sun by tall corn, this individual was observed to catch and consume nine large black nymphs and one adult of the chinch bug in a period of twenty-six minutes. Most of the bugs present were of the last nymphal instar. The smaller individuals were obviously much more difficult to catch than the larger forms.

The predator took a position on a flat, slightly elevated spot from which it spied bugs from two to three inches away. The prey was reached by long rapid strides, but the aim of the mandibles was not always straight, and at times several efforts were necessary to secure the bugs. When the first effort failed, the bug feigned death momentarily, in which case the beetle was not able to relocate its intended victim. In all instances the bugs were moving when they first drew the predator's attention as were they also when pursued and caught. When the bug was successful in evading its enemy by "playing possum," the tiger beetle quite promptly pursued another nymph. But the bug did not always remain motionless until the beetle went in pursuit of another, so that there occurred instances of failure as well as of success of tactics on both sides.

When the beetle secured its victim in its mandibles it usually returned to the point from which it started. Thereupon the bug held in the jaws was struck briskly against the ground several times in rapid succession. This act may have served to stun or kill the prey, but probably rather aided in transferring it from the terminal portion of the mandibles to the much shorter maxillae. During the act of consuming the bugs the beetle's mandibles moved medio-laterad upon one another

simultaneously with the action of the maxillae, although they performed no further part in the process of eating the victim. As far as could be observed, only the soft interior parts were torn or chewed off by the maxillae. A pellet consisting of the dark exoskeleton was dropped to the ground below the beetle's head when the consumption of each bug was complete. The wings of the one adult were also discarded.

When the beetle began its meal the bugs were caught, devoured and the inedible parts rejected at the rate of one victim in thirty to fifty seconds. However, when five or six had been eaten the predator was less voracious and spirited, and a longer time elapsed in the intervals between consuming one bug and catching another. While catching and eating ten bugs, *Cicindela* stayed within a circle six inches in diameter. The repast finished, the beetle ran several feet up the furrow. Here it stopped and during a five minute period seemed to take a nap. Thereupon it spent fifteen minutes divided between resting and grooming itself with its legs before it was routed from the furrow.

W. V. BALDUF, University of Illinois, Urbana, Ill.

The Van Duzee Collection of Hemiptera

Mr. E. P. Van Duzee has presented his entire collection of Hemiptera to the California Academy of Sciences. After each specimen is labeled "E. P. Van Duzee Collection," they are to be incorporated into the systematic collections of the Academy and are not to be used for exchange or for exhibition purposes. He has the privilege of temporarily withdrawing for study any of the specimens he may need for use at home.

Avoiding Name Priority Confusion (Lepid., Rhopalocera).

In my last paper on Butterfly Aberrations published in the NEWS, July, 1925, I referred, in comparative text only, to several of Dr. John Comstock's newly named California butterflies. To wit:

Euph. chalcedona, ab. *supranigrella*
Euph. chalcedona, ab. *fusisecunda*
Euph. sierra, ab. *umbrobasana*
Pleb. chlorina, form *carolynae*

Some name priority confusion may arise because of the fact that the technical descriptions of these specimens have not as yet appreared in print. However, long prior to July, 1925, colored plates of these butterflies with their names specifically given below them, were distributed to most of our Western

Lepidopterists and given out freely at meetings of the Lorquin Entomological Club of California. I understood also from Dr. Comstock that a number of the plates were sent to Eastern people and further that any accredited Lepidopterist who wishes to aquaint himself with these new forms need only apply to him at the Southwest Museum, Los Angeles, Calif., and the desired colored plates will be sent at once. The bound plates and complete text matter are to appear later.

I consider the distribution of these named plates as sufficient publication to establish the names and give priority of authorship to Dr. Comstock. These plates serve admirably to identify the specimens and are superior in that respect to any amount of description. Further; Article 16, Division B, of the International Rules states—"that in absence of a definition in words, the name be accompanied by a figure."

J. D. GUNDER, Pasadena, California.

Entomological Literature

COMPILED BY E. T. CRESSON, JR.

Under the above head it is intended to note papers received at the Academy of Natural Sciences, of Philadelphia, pertaining to the Entomology of the Americas (North and South), including Arachnida and Myriopoda. Articles irrelevant to American entomology will not be noted; but contributions to anatomy, physiology and embryology of insects, however, whether relating to American or exotic species will be recorded.

The numbers in Heavy-Faced Type refer to the journals, as numbered in the following list, in which the papers are published.

All continued papers, with few exceptions, are recorded only at their first installments.

Papers of systematic nature will be found in the paragraph beginning with (N). Those pertaining to Neotropical species only will be found in paragraphs beginning with (S). Those containing descriptions of new forms are preceded by an *.

For records of Economic Literature, see the Experiment Station Record, Office of Experiment Stations, Washington. Also Review of Applied Entomology, Series A, London. For records of papers on Medical Entomology, see Review of Applied Entomology, Series B.

The titles occurring in the Entomological News are not listed.

4—Canadian Entomologist. 8—The Entomologist's Monthly Magazine. 9—The Entomologist. 11—Deutsche Ent. Zeitschrift. 12—Journal of Economic Ent. 14—Entomologische Zeit., Frankfurt a. M. 18—Internationale Ent. Zeit., Guben. 19—Bull., Brooklyn Ent. Soc. 29—Annual Rept., Ent. Soc. of Ontario. 33—Bull. et Annal. Soc. Ent. Belgique. 36—Trans., Ent. Soc., London. 37—Proc., Hawaiian Ent. Soc. 41—Bulletin, Societe Ent. Suisse. 42—Ent. Meddelelser, Ent. Forening, Kjobenhavn. 49—Ent. Mitteilungen, Berlin. 50—Proc. U. S. National Mus. 55—The Pan-Pacific Entomologist. 60—Stettiner Ent. Zeit. 61—Proc., California Acad. of Sciences. 63—

Deutsche Ent. Zeit., "Iris". 75—Annals and Mag. of Nat. History, London. 89—Zool. Jahrbucher, Jena. 100—Proc., Acad. Nat. Sci., Philadelphia. 101—Biolog. Bull., Woods Hole, Mass. 107—Biologisches Zentralblatt. 111—Archiv f. Naturg., Berlin. 113—Jour. Agric. Research, Washington. 116—Ann. of Applied Biology. 118—Die Naturwissenschaften, Berlin. 151—Oc. Pap., Boston Soc. Nat. Hist. 154—Zoolog. Anzeiger.

GENERAL.—Adkin, R.—Dispersal of butterflies and other insects.—Nature, cxvi, 467. **Aue, A. U. E.**—Entomologisches allerlei.—**14,** xxxix, 89-90. **Bequaert, J.**—Arthropod enemies of mollusks, with descr. of a new dipterous parasite from Brazil.—Jour. Parasitol., xi, 201-12. **Fernald, H. T.**—Rapidity of flight of a dragonfly. Flights of onion thrips.—**12,** xviii, 638. **Horn, W.**—Et meminisse et vaticinari liceat: Ueber ein echo.—**49,** xiv, 201-2. **Lindholm, W. A.**—Vorschlage zur genaueren bezeichnung der genotypen.—**154,** lxiii, 161-5. **Maheux, G.**—Entomology in the rural schools in the province of Quebec.—**29,** lv. 73-5. **Meissner, O.**—Einige entomologisch-etymologische bemerkungen.—**18,** xix, 163-4. **Meyer, R.**—Fundortetiketten—ein notschrei.—**18,** xix, 144. **Ochmann, O.**—Einrichtung eines brauchbaren u. billigen thermostaten fur warme- und hitzeexperimente.—**18,** xix, 130-31. **Schroder, C.**—Handbuch der entomologie. Lief. 17-18. **Sherborn, C. D.**—Index animalium. VI, Index, Ceyl.-Concolor. pp. 1197-1452.—London, Br. Mus. **Third international** congress of entomology.—**9,** 1925, 220-4. **Weiss, H. B.**—Entomology in the fables of John Gay.—**4,** lvii, 183-5. **Wucherpfennig, F.**—Ernst Garbe, Sao Paulo, Obituary.—**14,** xxxix, 69-70.

ANATOMY, PHYSIOLOGY, MEDICAL, ETC.—Alverdes, F.— Korperstellung und lokomotion bei insekten nach eingriffen am gehirn.—**107,** xlvi, 353-64. **Breitenbecher, J. K.**—Inheritance of sex-limited bilateral asymmetry in Bruchus.—Genetics, x, 261-77. **Breitenbecher, J. K.**—Inheritance of a macula mutation concerned with elytral spotting and latent traits in the male of Bruchus.—**101,** xlix, 265-74. **Feuerborn, H. J.**—Thorax der apterygoten u. myriapoden. Zugleich ein ausblick zu den arachnoideen.—**154,** lxiv, 29-50. **Feuerborn, H. J.**—Problem der segmentalen gliederung des insektenthorax.—**154,** lxiii, 169-82, 273-92. **Frisch, K. v.**—Sinnesphysiologie und "sprache" der bienen.—Verh. Ges. Deut. Naturf. u. Arzte,

Berlin, 1924. **Guthrie, J. D.**—New leg mutant in Drosophila melanogaster.—Am.-Nat., lix, 479-80. **Hilton, W. A.**—Nerve endings in insects.—Trans. Am. Micro. Soc., xliv, 132-7. **Knoll, F.**—Blutenokologie und sinnesphysiologie der insekten.—**118,** 1924, 988-93. **Mavor, J. M.**—Attack on the gene.—Sci. Month., xxi, 355-63. **Warren, E.**—Spermatogenesis of spiders and the chromosome hypothesis of heredity.—Nature, cxvi, 395-6. **Wheeler, W. M.**—Evolution des insectes sociaux.—Rev. Sci. Ill., 1925, 548-57.

ARACHNIDA AND MYRIOPODA.

(N) ***Chamberlin, R. V.**—New N. American spiders. Expedition of the Cal. Ad. Sci. to the Gulf of California in 1921. Phalangida.—**61,** xiv, 105-42; 171-73.

(S) ***Vitzthum, H.**—Acarologische beobachtungen. 8.—**111,** 1924, A, 10, 1-85.

THE SMALLER ORDERS OF INSECTA.—Crawford, D. L.—Notes on California Psyllidae.—**37,** vi, 30-1. **Storch, O.**—Libellenstudien. Die eiablage von Somatochlora metallica.—Akad. Wiss. Wien, Abt. I, cxxxiii, 57-85.

(N) ***Cockerell, T. D. A.**—New fossil dragonfly from Florissant.—**9,** 1925, 205-6. ***Hood, J. D.**—Notes on New York Thysanoptera, with descr. of new genera and sps.—**19,** xx, 124-30.

(S) ***Emerson, A. E.**—Termites of Kartabo Bartica District, Br. Guiana.—Zoologica, vi, 291-459. **Navas, A. F. L.**—Neuropteren, megalopteren, plecopteren u. trichopteren aus Deutschen Ent. Inst.—**49,** xiv, 205-12 (Cont.). ***Navas, R. P. L.**—Insectos exoticos nuevos o poco conocidos.—Mem. R. Acad. Cien. y. Artes, Barcelona, xix, 181-200. ***Priesner, H.**—Thysanopterologica.—**89,** Syst., 1, 305-19.

ORTHOPTERA.—Carpentier, F.—Sur le double stigmate de quelques orthopteres.—**33,** lxv, 205-8. **Heymons, R.**—Orthopterologische bemerkungen.—**11,** 1925, 163-66. **Rockwood, L. P.**—On night flying and attraction to light in Acridiidae and the relation of meteorological conditions thereto.—**55,** ii, 36-8.

(N) ***Hebard, M.**—Orthoptera of South Dakota.—**100,** lxxvii, 33-155. ***Hubbell, T. H.**—New sp. of Pristoceuthophilus from the Olympic mountains, Wash.—**55,** ii, 39-42.

(S) **Campos, F.**—Estudios sobre la fauna entomologica del Ecuador. Orthopteros.—Rev. Col. Nac. V. Rocafuerte, v, No. 11, 3-43.

HEMIPTERA.—Chittenden, F. H.—Note on Lixus fimbriolatus. Note on the behavior of Leptoglossus oppositus.—**19,** xx, 123; 148-9. **Davis, W. T.**—Note on Podops cinctipes and Solubea pugnax.—**19,** xx, 147. **Jensen-Haarup, A. C.**—Hemipterological notes and descriptions. [Descr. new Argentine sps.]—**42,** xiv, 323-38. **Muir, F.**—On the status of the anterior processes of the male genitalia in Homoptera—**37,** vi, 41-5. **Singh-Pruthi, H.**—Morphology of the male genitalia in Rhynchota.—**36,** 1925, 127-268. **Valssiere, P.**—Note preliminaire sur les Monophlibinae (Coccides).—An. Epiphyties, ix, 419-29. **Van Duzee, E. P.**—The Van Duzee collection of Hemiptera. Two Arizona Hemiptera.—**55,** ii, 15; 22.

(N) ***Hungerford, H. B.**—Study of the interrupta-harrisii group of the gen. Arctocorixa with descr. of n. sps. (Corixidae).—**19,** xx, 141-5. ***Mason, P. W.**—Revision of the insects of the aphid genus Amphorophora.—**50,** lxvii, Art. 20. ***Osborn, H.**—New Acinopterus from southern California.—**55,** ii, 22. ***Van Duzee, E. P.**—New mirid from Arizona.—**55,** ii, 35. ***Van Duzee, E. P.**—New hemiptera from western North America.—**61,** xiv, 391-425.

(S) **Campos, F.**—Notas biologicas sobre el Triatoma dimidiata.—Rev. Col. V. Rocafuerte, v. No. 13, 1-7. **Goding, F. W.**—Sinopsis de los Cercopidae del Ecuador.—Rev. Col. Nac. V. Rocafuerte, v. No. 11, 45-52. ***Hussey, R. F.**—New hydrometrid genus from Honduras.—**19,** xx, 115-19.

LEPIDOPTERA.—Bethune-Baker, G. T.—On the scent-sacks in the genus Rhodogastria.—**36,** 1925, 321-29. **Chopra, R. L.**—On the structure, life-history, economic importance and distribution of the cocks-foot moth, Glyphipteryx fischeriella.—**116,** xii, 359-97. **Coolidge, K. R.**—California butterfly notes.—**19,** xx, 146-7. **Ellis, W. O.**—Some lepidopterous larvae resembling the European corn borer.—**113,** xxx, 777-92. **Eltringham, H.**—On the abdominal brushes in certain male noctuid moths. On a new organ in certain Lepidoptera. On the source of the sphragidal fluid in Parnassius apollo. On the abdominal glands in Heliconius. On the structure of the ocelli in Plusia gamma.—**36,** 1925, 1-6; 7-10; 11-16; 269-76; 277-81.

Farmiloe, C.—Ailanthus silkworm.—**19,** xx, 120-3. **Guth, F.**—Parthenopolis.—**18,** xix, 132. **Hamlin, J. C.**—Important Opuntia insects of the U. S.: Biological notes on the moth-borers (Pyralidae).—**55,** ii, 1-11. **Muller-Rutz, J.**—Ueber genitaluntersuchungen bei schmetterlingen.—**41,** xiii, 429-34. **Philpott, A.**—On the wing-coupling apparatus of the Hepialidae.—**36,** 1925, 331-40. **Schuster von Forstner, W.**—Schlangenaugen der schwarmerraupen.—**18,** xix, 157-8. **Twinn, C. R.**—Observations on the host-selection habits of Pieris rapae.—**29,** lv, 75-80.

(N) ***Barnes & Benjamin.**—New and rare L. from the southwest. Notes on Arizona Phalaenidae.—**55,** ii, 12-15; 16-21. ***Blackmore, E. H.**—New noctuid from Br. Columbia.—**4,** lvii, 205. ***Comstock, J. A.**—Studies in Pacific coast L.—Bul. So. Cal. Ac. Sci., xxiv, 37-8.

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A General Textbook of Entomology, Including the Anatomy, Physiology, Development and Classification of Insects, by A. D. Imms, D. Sc., Chief Entomologist, Rothamsted Experiment Station, Harpenden, England. Published by Methuen & Co., 36 Essex St., London, England. Pages x+698. Illustrations, 604. Price, 36 shillings.

The subject matter is apportioned as follows: to "Anatomy and Physiology," pages 1-156; to "Development and Metamorphosis," pages 157-198; to "Classification," pages 199-667. An index of authors is given on pages 669-675, and a general index on pages 676-698.

This book ranks with Comstock's revised "Introduction to Entomology" as the best of the recent books dealing with Entomology in general; and while Comstock's "Introduction" will doubtless be more widely used by American students,

Imms' "Textbook" will probably be more widely used in England and the Colonies, since its scope, material and method of treatment make it better adapted for the latter purpose.

In America, the tendency is to emphasize the study of external morphology, since this phase of the subject is of more value in classification. European entomologists, on the other hand, are inclined to lay greater stress upon the study of internal anatomy, histology, etc., since these are of more value in the study of physiology, behaviour, bionomics, and similar phases of Entomology. Imms' book shows the European influence in that two-thirds of the figures in the part dealing with "Anatomy and Physiology" are of internal features, and even in the figures dealing with the venation of the Diptera, for example, there is a tendency to neglect the labelling of the veins, thereby making it somewhat more difficult for students to use the keys—a matter to which an American author, such as Comstock, would give more attention, due to his greater concern over the taxonomic phase of the subject.

The standard of scholarship maintained in Dr. Imms' book is extremely high, and one marvels that in addition to his research and administrative duties, he could have found the time to read through and digest the immense amount of literature evidently thoroughly studied in the preparation of this work. The insular viewpoint is commendably absent from Dr. Imms' book, and it is gratifying to note that in it many of the old familiar misconceptions have been wisely discarded, due to the fact that its author has kept abreast of the times; and it is hard to sympathize with the attitude of another reviewer who deplores the fact that in Dr. Imms' lists of references "We miss the names of many of the older writers, and find instead a vast number of people quoted of whose existence we were unaware." (See the "Entomologists' Monthly Magazine," page 117 of the May, 1925, issue.)

There is but little in Dr. Imms' book that merits adverse criticism, and the only serious fault in it should be laid at the door of the publishers, not the author—namely the fault of making the binding so weak that it will not readily withstand the assaults of careless students! The price is quite high, and it is doubtful that every student can afford to purchase his own copy, so that many of those who use the book as a work of reference, will have to borrow a copy from the library, or from one of their more fortunate fellows, and it is to be feared that the book will not be returned in very good

condition if the reviewer's copy is typical of the binding of the entire edition! In other matters, however, the book is very satisfactory. The printing is good, and the illustrations are as a rule excellent and are well chosen. There are a few typographical errors and mistakes which can readily be remedied in the next edition — namely, the transposing of the words *mesothorax* and *metathorax* in the description of the Dipteran thorax on page 592, the incorrect spelling "Anopleura" (for Anoplura), etc.

It is inevitable that a book covering so wide a field will contain statements to which some specialists might take exception; and as a morphologist, the reviewer would disagree with a few of the interpretations of the parts given in certain of Dr. Imms' anatomical figures. Thus, in Textfigure 8, the structure interpreted as the "prostheca" of *Blatta,* is assuredly not the homologue of the structure called prostheca in beetles, nor is the sclerite interpreted as the "subgalea" in the same figure of *Blatta* the homologue of the sclerite interpreted as the "subgalea" in beetles (*e. g.,* Textfigure 10). It is also unfortunate that Dr. Imms did not know of the fine monograph of the thoracic sclerites of the Diptera by Dr. Young (to whom no reference is made in the "Literature on Diptera") for Dr. Young's investigations have cleared up the uncertainties concerning the interpretation of the thoracic sclerites of the Diptera, of which Dr. Imms complains.

It is to be hoped that such poorly constructed ordinal terms as "Ephemeroptera," "Psocoptera," etc., will not be perpetuated in subsequent editions, and it is also to be hoped that in the preparation of the next edition of the book, Dr. Imms can find the time to investigate the matter of the relationships of the various orders of insects a little more throughly. Thus, for example, the Isoptera are much more closely related to the Blattids and Mantids than Dr. Imms has indicated, and it is more than doubtful that the Grylloblattids should be grouped with the Cursoria rather than with the Saltatoria, their next of kin. Furthermore, the Mallophaga are extremely closely related to the Psocids (in fact Kellogg regards them as degenerate Psocids) and this relationship should be indicated, rather than to group the Mallophaga with the biting lice as members of the order Anoplura.

In the section dealing with the classification of insects there are likewise some improvements to be made in a subsequent edition. Thus the key to the major groups of the Lepidoptera,

for example, is not very reliable for the American forms, and it would have been well to give a figure of the much-used setal maps which are invaluable in the classification of Lepidopterous larvae, etc. These matters, however, are of minor importance, and do not constitute any serious objections to a book of which its author may justly feel proud, and one which will remain a standard work of reference for many years to come. The reviewer would unhesitatingly recommend Dr. Imms' book as one of the best texts dealing with Entomology in general, and no student who intends to make Entomology his life work, can afford to be without it.—G. C. CRAMPTON.

Doings of Societies.

The International Entomological Congress at Zürich.

The Third International Entomological Congress was held at Zürich, Switzerland, last summer from July 19th to July 25th The congress was largely attended. About two hundred men and about fifty women took part in its various functions. The majority of the delegates were from England and her dependencies, from Germany, and, naturally, from Switzerland, although Denmark, Holland, Austria, Sweden, Spain, Hungary, Poland, Estland, Finland and Czechoslovakia were represented. From the United States there were present, in addition to the writer, Prof. O. E. Johannsen, Dr. W. R. Thompson, Mr. S. M. Dohanian, and Dr. E. Graenicher. By the way, this representation of the United States is of interest as indicating the cosmopolitan character of our country, from the fact that Professor Johannsen is of Scandinavian descent, Doctor Thompson was born in Canada, Mr. Dohanian is of Armenian descent, and Doctor Graenicher was born in Switzerland.

The absence of delegates from Italy, France and Belgium, all nearby countries, is explained almost solely by the unfortunate condition of the monetary exchange as affecting those countries, and not on account of hostility to the German language which prevailed at the congress. The present par condition of the Swiss franc made it so extremely expensive for people of these nations that they were obliged to stay at home.

In spite of this fact, the congress was a great success. More nations were represented than at the previous meetings at Brussels and Oxford.

Dr. A. von Schulthess, of Zürich, presided. He has an impressive personality, and carried on the sessions of the congress with much dignity, tact and courtesy. The local committee had made excellent arrangements, and the different meetings went on without the slightest friction.

It was a great pleasure to meet many distinguished men, all old pre-bellum friends, for the first time since the peaceful years antedating 1914. Anton Handlirsch, of Vienna, for example, who was to have been the president of the congress which was to have been held in 1915 in Vienna, Horvath and Jablonowski of Budapest, Walther Horn and C. Boerner of Berlin, Reh of Hamburg, Eckstein of Eberswalde, Escherich of Munich, Prell of Tharandt, Spaeth of Vienna, and others.

There was a very large delegation from England and the English dominions and colonies. Dr. Karl Jordan was there of course, Lord Rothschild, Prof. Poulton, Rev. F. D. Morice, G. H. F. Nuttall, G. A. K. Marshall, S. A. Neave, Balfour-Brown, James Davidson, Hugh Scott, Waterston, Edwards, Laing, Munro, MacDougall—all men whom the writer was especially glad to see—and then Williams from Cairo, Urich from Trinidad, Fletcher from India, and many others, the British delegation numbering more than fifty.

The writer was especially glad to see his old friend, Dr. Y. Sjöstedt of Sweden, and his more recent friends, Ivar Trägardh and his charming wife, of the same country.

From Holland came Father Wasmann, who read several papers and took part in a number of discussions, Professor van Bemmelin of Groningen who charmingly and vigorously discussed certain mimicry questions with Dr. Poulton and Prof. T. Schoevers, the secretary of the International Conference of Economic Entomologists and Phytopathologists at Wageningen in 1923; and Ed. Everts, now of Caen, France, was also there to greet his old friends.

J. P. Kryger of Denmark was also present: but the writer

missed his old friend S. Mokrzecki of Warsaw (formerly of Simferopol) who was taken ill just before starting. He sent his greetings however by Dr. R. Bledowski.

Spain was represented by the veteran Father Longinos Navas, Candido Bolivar and his delightful wife and sister, and by two younger men, M. M. de la Escalera and J. da Silva Tavares.

As at the Oxford Congress, general sessions were held in the mornings and sectional sessions in the afternoons. An excellent account of the meeting by R. Stewart MacDougall was published in *Nature* for August 15th, and the readers of the NEWS are referred to this article for some account of certain of the principal papers read. Doctor MacDougall, however, in his account, modestly refrains from mentioning his own prominent part in the congress. He presided at one of the meetings of the section on economic entomology and gave a very important address. He took part in the general discussions at the general sessions on several occasions, and made a capital speech at the final banquet. He is a man of force, is a charming speaker and a most lovable character.

The social functions of the congress were delightful. Those which the writer was able to attend, namely the opening gathering on Sunday night, the 19th, the boat ride on the lake, and the final dinner, were joyous affairs.

The writer was obliged to leave Zürich on the morning of the final day and so is not informed authoritatively as to the resolutions adopted at the closing session. He was told the previous day by members of the Executive Committee that the Congress will be glad to meet in the United States in 1928, provided that the entomologists of this country are able greatly to lessen the expense of the journey to the Europeans. He was also told that the officers for the next Congress will not be chosen until the meeting place is selected.

As to the results of the committee work, we must wait for the official announcements which will probably be published in some of the European journals before the probably delayed publication of the volume of proceedings.

L. O. HOWARD.

EXCHANGES

This column is intended only for wants and exchanges, not for advertisements of goods for sale. Notices not exceeding three lines free to subscribers.

These notices are continued as long as our limited space will allow; the new ones are added at the end of the column, and only when necessary those at the top (being longest in) are discontinued.

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